SECTION 11. PUBLIC PARTICIPATION

EPA and the Bay jurisdictions have benefitted from a comprehensive effort to exchange information with key stakeholders and the broader public on the Chesapeake Bay TMDL.

The Bay TMDL has been the subject of public discussion and close interaction between EPA and the seven watershed jurisdictions since 2005. Activities to further public involvement in the Bay TMDL will continue in 2011 and beyond as the TMDL is implemented.

The concentrated outreach period of 2009 and 2010 leading up to the establishment of the TMDL is of particular focus in this section. That 2-year effort featured hundreds of meetings with interested groups; two extensive rounds of public meetings, stakeholder sessions, and media interviews throughout the watershed; a dedicated EPA website; a series of monthly interactive webinars accessed online by more than 2,500 people; three notices published in the *Federal Register*; and a close working relationship with Chesapeake Bay Program committees representing citizens, local governments, and the scientific community.

The states and the District of Columbia have also involved stakeholders and the broader public in the development of their Watershed Implementation Plans, which informed the Bay TMDL.

11.1 Stakeholder and Local Government Outreach and Involvement

EPA has made a concerted effort over the past years to involve a variety of stakeholders, including local governments, in the development of the Chesapeake Bay TMDL. This subsection describes some of the more significant aspects of that effort.

11.1.1 Open Collaboration with Stakeholders

EPA has taken extra efforts to reach out to groups and sectors that will be particularly affected by the Bay TMDL. Since 2008, EPA principals involved in developing the Bay TMDL have attended nearly 400 meetings with a wide range of groups throughout the watershed to give and receive information about the TMDL. A list of those meetings is provided in Appendix C.

During the course of months-long outreach campaigns in the fall of 2009 and 2010, EPA teams conducted nearly 100 separate meetings and briefings with key stakeholder groups to share sector-specific information and address sector-focused questions. Those groups included farmers and producers, homebuilders and developers, municipal wastewater authorities, local elected officials, conservation groups, and environmental advocacy organizations. The outreach generated key insights and perspectives.

11.1.2 Outreach to Local Governments and Elected Officials

EPA and the watershed jurisdictions have made a special effort to involve local governments in the Bay TMDL process to better understand how the TMDL can best be tailored to local scales for implementation. EPA and the jurisdictions will have more targeted discussions with local officials starting in 2011 as the Phase II Watershed Implementation Plans from the states and the

District offer a finer scale commitment to meeting the pollution reduction allocations. EPA has and is willing to use the scientific ability in the TMDL to identify pollution sources and impacts on a relatively local level.

11.1.3 Local Pilots

EPA provided $300,000 in technical assistance for a series of pilot projects to help the jurisdictions engage local partners as part of their Watershed Implementation plan Process. Local governments, conservation districts, watershed groups and others were eligible for a share of the assistance. The projects are demonstrating how local needs, priorities, and existing restoration efforts can be incorporated in the implementation plans. EPA awarded funds to the following communities and watersheds:

District of Columbia
Maryland: Anne Arundel and Caroline counties
New York: Chemung River watershed
Pennsylvania: Conewago Creek watershed
Virginia: Prince William County and Rivanna River basin
West Virginia: Berkeley, Jefferson, and Morgan counties

Information on the pilot projects is at
http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/WIPPilotProjectSummary_82010.pdf.

11.2 Public Outreach

EPA's extensive outreach efforts included public meetings, webinars, and a dedicated website that facilitated a continuing dialogue between EPA, the seven watershed jurisdictions, and key stakeholders on the Chesapeake Bay TMDL for nitrogen, phosphorus, and sediment.

11.2.1 Public Meetings

Two rounds of public meetings in each of the watershed jurisdictions were a centerpiece of EPA's outreach efforts.

November–December 2009 Public Meetings

EPA and its jurisdiction partners sponsored 16 public meetings in the fall of 2009 to share information on the forthcoming Bay TMDL. A number of the public meetings were broadcast to a live, online audience via webinar. More than 2,000 people participated in the meetings, including 1,815 in person and 263 online via webinar at six of the locations. There was also a kickoff public meeting in Richmond, Virginia, in October 2009 that drew a combined live and online audience of more than 400 people.

The 2009 public meetings were held in

Martinsburg, West Virginia, November 4*
Moorefield, West Virginia, November 5
Washington, D.C., November 16*
Ashley, Pennsylvania, November 17
Williamsport, Pennsylvania, November 18

State College, Pennsylvania, November 19
Lancaster, Pennsylvania, November 23*
Binghamton, New York, December 1*
Baltimore, Maryland, December 8*
Laurel, Delaware, December 10*
Wye Mills, Maryland, December 11
Falls Church, Virginia, December 14
Chesapeake, Virginia, December 15
Williamsburg, Virginia, December 15
Penn Laird, Virginia, December 16
Fredericksburg, Virginia, December 17

* Meeting also was broadcast online via webinar. The largest live audiences were in Penn Laird, Virginia (205), and Lancaster, Pennsylvania (196).

September-November 2010 Public Meetings

The draft Chesapeake Bay TMDL was issued on September 24, 2010, commencing a 45-day public comment period. During that comment period, a total of 18 public meetings were held in all seven watershed jurisdictions. As in 2009, one of the meetings in each jurisdiction was broadcast online via webinar to a broader audience. The times, specific locations, directions, and parking information were posted on the Bay TMDL website: http://www.epa.gov/chesapeakebaytmdl.

EPA and the respective jurisdictions each made presentations during the public meetings. Those presentations were posted on the Bay TMDL website as they happened. They can be found on the site as part of a summary of the 2010 public meetings.

Nearly 2,800 people participated in the meetings, including 2,311 in person (estimated based on sign-in sheets and headcounts) and 477 online via webinar.

The meetings and attendance figures were as follows:

Washington, D.C., September 29* (29 in person, 74 online)
Harrisonburg, Virginia, October 4 (330)
Annandale, Virginia, October 5 (135)
Richmond, Virginia, October 6 (250)
Webinar, October 7 (9 in person, 160 online)
Hampton, Virginia, October 7 (165)
Georgetown, Delaware, October 11* (90 in person, 16 online)
Easton, Maryland, October 12 (111)
Annapolis, Maryland, October 13 (200)
Hagerstown, Maryland, October 14* (60 in person, 65 online)
Lancaster, Pennsylvania, October 18 (200)
State College, Pennsylvania, October 19 (101)
Williamsport, Pennsylvania, October 20* (80 in person, 101 online)
Ashley, Pennsylvania, October 21 (40)
Elmira, New York, October 26 (120)
Binghamton, New York, October 27* (120 in person, 42 online)

Martinsburg, West Virginia, November 3 (100)
Romney, West Virginia, November 4* (171 in person, 19 online)
* Meeting also broadcast online via webinar. Webinar registration links were available on the Bay TMDL website listed above.

11.2.2 Webinars to Expand Audiences

EPA Region 3 was one of the first regional offices to acquire capacity to host large webinars. The system was obtained specifically to broadcast a representative number of the 2009 fall public meetings to online audiences, thus expanding the ability for the public to hear and participate in the meetings. Webinars were broadcast about monthly and were incorporated in a number of the fall 2010 public meetings—one in each jurisdiction.

Monthly Webinars

EPA sponsored monthly webinars in 2010 to keep the public up to date on Bay TMDL developments. The seven webinars drew a collective audience of 2,587 participants. The regularly scheduled webinars represent one of EPA's Open Government flagship initiatives for public outreach. A substantial portion of each webinar was reserved for informal questions and answers.

The monthly webinars were advertised widely using stakeholder and jurisdiction lists of hundreds of people and organizations that have expressed an interest in the Bay TMDL. The registration links for the webinars were published prominently on the Bay TMDL website.

The monthly webinars were held on

February 25, 2010	TMDL Update 1	529 participants
March 25, 2010	TMDL Update 2	379 participants
May 17, 2010	TMDL Update 3	294 participants
June 7, 2010	TMDL Update 4	288 participants
July 8, 2010	TMDL Update 5	383 participants
August 9, 2010	TMDL Update 6	385 participants
September 28, 2010	TMDL Update 7	329 participants

Webinars Tailored to Specific Stakeholder Communities

In addition to the monthly webinars, EPA sponsored two webinars to review detailed modeling and other technical information with representatives of the agriculture and development communities.

The webinars were held on

March 22, 2010	Webinar for the Agriculture Community	218 participants
May 6, 2010	Webinar for the Development Community	84 participants

11.2.3 Chesapeake Bay TMDL Website

EPA established a website for the Chesapeake Bay TMDL in August 2009. The address is http://www.epa.gov/chesapeakebaytmdl.

The site continues to include the latest news and information on the Bay TMDL, along with fact sheets, questions and answers, presentations, and other features. The site has consistently been one of the most popular in EPA Region 3 according to access numbers.

In addition, the Chesapeake Bay Program partnership's website (www.chesapeakebay.net) has contained detailed information involving Bay TMDL proceedings, including scientific data, PowerPoint presentations, and other items used in the process.

11.2.4 Public Notices

Federal Register Notices

EPA has issued two notices in the *Federal Register* regarding the Chesapeake Bay TMDL to ensure that the public has full advance notification of major events. The notices include a September 17, 2009, announcement (USEPA 2009a) of the public meetings and a September 22, 2010 announcement (USEPA 2010c) of the public review and comment period. EPA issued a third notice to announce establishment of the final Chesapeake Bay TMDL.

Newspaper Notices

EPA has issued notices in regional and local newspapers regarding the Chesapeake Bay TMDL to ensure that the public throughout the watershed has full advance notification of major events.

11.3 Responses to Public Comments

The Draft Chesapeake Bay TMDL was available for public comment from September 24, 2010, to November 8, 2010. Comments were accepted electronically via Docket ID No. EPA-R03-OW-2010-0736 at www.regulations.gov, by mail, and by hand delivery. A link to review and comment on the Bay TMDL was provided through the Bay TMDL website.

EPA received more than 14,000 comments on the Bay TMDL, including more than 700 detailed comment letters. More than 90 percent of the comments, including many similar submissions, were in favor of the TMDL. Comments came from many different sources, including individual citizens, industry, local government, environmental organizations, and academia.

A team of EPA specialists reviewed and responded to all written comments submitted during the public comment period and the comments were considered, as appropriate, in the establishment of the final Bay TMDL. Responses to the comments are included in Appendix W in the final Bay TMDL document.

11.4 Interaction with States, D.C. on Watershed Implementation Plans

EPA provided considerable assistance to the six watershed states and the District of Columbia in the development of their draft and final WIPs. In addition to financial and technical assistance, EPA held numerous meetings and conference calls with each of the jurisdictions to provide input and guidance and to reiterate expectations for the WIPs. A listing of those conference calls and meetings are included in Appendix C in this document.

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SECTION 13. GLOSSARY

Airshed. A geographic area delineating the relative location of air emission sources contributing to the atmospheric deposition to a down-wind watershed.

Allocations. Best estimates of current and future pollutant loads (both nonpoint and point sources) entering a water body. Pollutant load estimates can range from reasonably accurate measurements to gross estimates and the techniques used for predicting specific loads.

Ammonia. An inorganic nitrogen compound. In water, ammonia levels in excess of the recommended limits may harm aquatic life.

Assimilative Capacity. The capacity of a natural body of water to receive wastewaters or toxic materials without deleterious effects and without damage to aquatic life or humans who consume the water.

Bay Segment. Subunits of the Chesapeake Bay estuary that were derived on the basis of specific selection criteria related to factors such as jurisdictional boundaries and other water quality, physical, geographic, and habitat related characteristics. The Chesapeake Bay and its tidal tributaries and embayments are divided into 92 segments.

Best Management Practices. Methods that have been determined to be the most effective, practical means of preventing or reducing pollution from non-point sources.

Bloom. A proliferation of algae or higher aquatic plants (or both) in a body of water; often related to pollution, especially when pollutants accelerate growth. Blooms are often the result of excessive levels of nutrients—generally nitrogen and phosphorus—in water.

Boundary Conditions. The definition or statement of conditions or phenomena at the boundaries of a model; water levels, flows, and concentrations that are specified at the boundaries of the area being modeled.

Chlorophyll *a*. A photosynthetic pigment that is found in green plants. The concentration of chlorophyll *a* is used as an indicator of water quality.

Critical Condition. Critical conditions are represented by the combination of loading, waterbody conditions, and other environmental conditions that result in impairment and violation of water quality standards. Critical conditions for an individual TMDL typically depend on applicable water quality standards, characteristics of the observed impairments, source type and behavior, pollutant, and waterbody type.

Critical Period. A period during which hydrologic, temperature, environmental, flow, and other such environmental conditions result in a waterbody being most sensitive to an identified impairment (e.g., summer low flow, winter high flow).

Delist. To remove an impaired waterbody from the Section 303(d) Impaired Waters List.

Delivered Load. The amount of a pollutant delivered to the tidal waters of the Chesapeake Bay or its tidal tributaries from an upstream point of discharge/runoff after accounting for permanent reductions in pollutant loads due to natural in-stream processes in nontidal rivers.

Edge-of-Stream Load. The amount of a pollutant reaching a simulated stream segment from a point in that stream's watershed.

Effluent. Wastewater, either treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall. Generally refers to wastes or waters containing pollutants discharged into surface waters.

Eutrophication. The slow aging process during which a lake, estuary, or bay evolves into a bog or marsh and eventually disappears. During the later stages of eutrophication the water body is choked by abundant plant life due to higher levels of nutritive compounds such as nitrogen and phosphorus. Human activities can accelerate the process.

Existing Flow. The average flow volume discharged from a facility based on monitored data.

Facility Design Flow. The maximum flow volume for which a facility is designed and permitted to operate at.

Failing Septic System. Septic systems in which the drain field has failed such that effluent that is supposed to percolate into the soil, rises to the surface and pools on the surface where it can run into streams or rivers.

Impaired Waters. Waters with chronic or recurring monitored violations of the applicable numeric or narrative water quality standards.

Load Allocation. The portion of the TMDL allocated to existing or future nonpoint sources and natural background.

Loading Capacity. The greatest pollutant loading a waterbody can receive without exceeding water quality standards.

Mainstem Bay. The Chesapeake Bay, from Havre de Grace, Maryland to the Virginia Capes, without the tidal tributaries and embayments included.

Margin of Safety. An accounting of uncertainty about the relationship between pollutant loads and receiving water quality. The margin of safety can be provided implicitly through analytical assumptions or explicitly by reserving a portion of loading capacity.

Mesohaline. Salinity regime with >5-18 parts per thousand salinity.

Mixing Zone. A limited area or volume of a receiving water body where the initial dilution occurs and a permitted or authorized discharge occurs. Mixing zones are supposed to dilute or reduce pollutant concentrations below applicable water quality standards such that the applicable criteria in the standards are met at the edge of the mixing zone.

Model. A system of mathematical expressions that describe and represent the physical world or some aspect therein. In the Bay TMDL, models are used to describe both hydrologic and water quality processes as well as estimate the load of a specific pollutant to a water body and make predictions about how the load would change as remediation methods (e.g. scenarios) are implemented.

National Pollutant Discharge Elimination System (NPDES) permit program is authorized by the Clean Water Act and works to control water pollution by regulating point sources that discharge pollutants into waters of the United States. Industrial, municipal, and other facilities must obtain permits for any discharge into waters of the United States. In most cases, the NPDES permit program is administered by authorized states or EPA.

Nonpoint Source. Any source of water pollution that does not meet the legal definition of *point source*. Nonpoint source pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrologic modification.

Nonsignificant Discharge Facility. A municipal or industrial wastewater discharge facility that is not defined as *a significant discharge facility* by the jurisdiction in which it is permitted. In general but not always, nonsignificant municipal facilities have design flows less than 0.4 million gallons per day (Virginia and Maryland thresholds are slightly different). Nonsignificant industrial facilities discharge less than 3,800 pounds per year total phosphorus and less than 27,000 pounds per year total nitrogen.

Oligohaline. Salinity regime with >0.5-5 parts per thousand salinity.

Point Source. Any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft from which pollutants are or may be discharged.

Pollutant Source Sector. Category of related sources of nutrient and sediment loads identified for purposes of quantifying load allocations. Examples include agriculture, wastewater, forest, urban runoff.

Polyhaline. Salinity regime with 0-0.5 parts per thousand salinity.

Pycnocline. The depth in the water column where there is an abrupt change in density, temperature, and salinity. A pycnocline often forms in the Chesapeake Bay and its tidal tributaries when the lighter, warmer, and fresher water coming downstream from the spring rains overlays the denser, colder, and saltier water of the salt wedge bringing water upstream from the ocean.

Residence Time. Length of time that a pollutant remains with a section of a stream or river. Residence time is determined by streamflow and volume of the body in question.

Riparian. Referring to the areas adjacent to rivers and streams with a differing density, diversity, and productivity of plant and animal species relative to nearby uplands.

Runoff. That part of precipitation, snow melt, or irrigation water that runs off the land into streams or other surface-water. It can carry pollutants from the air and land into receiving waters.

Section 303(d). A section of the Clean Water Act that requires periodic identification of waters that do not or are not expected to meet applicable water quality standards and the establishment of TMDLs for such waters.

Sediment. Soil, sand, and minerals washed from the land into water, usually after rain or snow melt.

Segment Watershed. Watershed area draining into one of the 92 Chesapeake Bay segments.

Significant Discharge Facility. A municipal or industrial wastewater facility defined as such by the jurisdiction in which it is permitted. Significant facilities are distinguished from nonsignificant facilities on the basis of flow for municipals and loads for industrials. In general but not always, significant municipal facilities have flows larger than 0.4 million gallons per day, and significant industrial facilities discharge loads larger than 3,800 pounds per year of total phosphorus and 27,000 pounds per year of total nitrogen.

Simulation Period. A period used to run the model scenario simulation, selected to ensure that the simulated rainfall, meteorological, and environmental time series used to drive the watershed simulation such that it accurately simulates the critical conditions.

Suspended Solids. Small particles of solid pollutants that float on the surface of, or are suspended in, sewage or other liquids. They resist removal by conventional means.

Tidal Fresh. Salinity regime with 0-0.5 parts per thousand salinity.

Total Maximum Daily Load. Specifies the maximum amount of a pollutant that a waterbody can receive and still meet applicable water quality standards. It is the sum of the allocations for point sources (called wasteloads) and allocations for nonpoint sources (called loads) and natural background with a margin of safety (CWA section 303(d)(1)(c)). The TMDL can be described by the following equation:

$$\text{TMDL} = LC = \Sigma WLA + \Sigma LA + MOS$$

Turbidity. A measure of the cloudy condition in water due to suspended solids or organic matter.

Wasteload Allocation. The portion of the TMDL allocated to existing, potential or future point sources.

Water Clarity Acre. An acre of shallow-water bay grass designated-use bottom habitat, located anywhere between the 2-meter depth contour and the adjacent shoreline inclusively, which has been observed to achieve the applicable salinity-regime-specific water clarity criteria.

Watershed. An area of land from which all water drains to a common point.

SECTION 14. ABBREVIATIONS

µg/L	microgram per liter
ADM	annual/daily maximum ratio
AEU	animal equivalent units
AFO	animal feeding operation
ASMFC	Atlantic States Marine Fisheries Commission
BART	best available retrofit technology
BayTAS	Chesapeake Bay TMDL Tracking and Accountability System
BMP	best management practice
BOD	biological oxygen demand
CAA	Clean Air Act
CAC	Citizen's Advisory Committee
CAFO	concentrated animal feeding operation
CAMR	Clean Air Mercury Rule
CBLCD	Chesapeake Bay land cover data
CBP	Chesapeake Bay Program
CEC	Chesapeake Executive Council
CFD	cumulative frequency distribution
CFR	*Code of Federal Regulations*
CIMS	Chesapeake Information Management System
CMAQ	Community Multi-scale Air Quality model
COE	U.S. Army Corps of Engineers
COMAR	Code of Maryland
CONMON	continuous monitoring
CSO	combined sewer overflow
CSS	combined sewer system
CWA	Clean Water Act
DAITS	Data and Information Tracking System
DC	District of Columbia
DC WASA	District of Columbia Water and Sewer Authority
DE	Delaware
DE DNREC	Delaware Department of Natural Resources and Environmental Control
DMR	discharge monitoring report
DO	dissolved oxygen
DUQAT	Data Upload and Quality Assurance Tool
E3	everything by everyone everywhere
EGU	electric generating unit
EISA	Energy Independence and Security Act
ELG	effluent limit guidelines
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FFIP	federal facility implementation plan
FR	*Federal Register*
GIS	geographic information system
ICIS	Integrated Compliance Information System

Kd	light attenuation coefficient
LA	load allocation
lbs	pounds
LC	loading capacity
LGAC	Local Governments Advisory Committee
Ln	natural log
LOESS	locally weighted scatter plot smoother
LTCP	Long-Term Control Plan
m	meter
MAWP	Mid-Atlantic Water Program
MD	Maryland
MDE	Maryland Department of the Environment
mgd	million gallons per day
mg/L	milligrams per liter
MOS	margin of safety
MOU	memorandum of understanding
MRAT	Monitoring Realignment Action Team
MS4	Municipal Separate Storm Sewer System
NADP	National Atmospheric Deposition Program
NAS	National Agricultural Statistics
NEIEN	National Environmental Information Exchange Network
NH_3	ammonia
NH_4+	ammonium
NMFS	National Marine Fisheries Service
NMP	nutrient management plan
NO_2	nitrite
NO_3	nitrate
NOI	notice of intent
NOx	nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NY	New York
OSWTS	on-site wastewater treatment system
PA	Pennsylvania
PA DEP	Pennsylvania Department of Environmental Protection
PAR	photosynthetically active radiation
PCS	Permit Compliance System
PLW	percent light through water
POTW	publicly owned treatment works
PSC	Principals' Staff Committee
ppt	parts per thousand (salinity)
QA	quality assurance
QA/QC	quality assurance/quality control
RDA	Residual Designation Authority
RESAC	University of Maryland's Regional Earth Science Applications Center

SAV	submerged aquatic vegetation
SCR	selective catalytic reduction
SIP	state implementation plan
SNCR	selective non-catalytic reduction
SPARROW	Spatially Referenced Regressions on Watershed Attributes
SSO	sanitary sewer overflow
STAC	Scientific and Technical Advisory Committee
TMDL	total maximum daily load
TN	total nitrogen
TP	total phosphorus
TSS	total suspended solids
USC	Upper Susquehanna Coalition
U.S.C.	*United States Code*
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
VA	Virginia
VA DEQ	Virginia Department of Environmental Quality
VA DCR	Virginia Department of Conservation and Recreation
WIP	watershed implementation plan
WLA	wasteload allocation
WQBELs	water quality-based effluent limits
WQGIT	Water Quality Group Implementation Team
WQS	water quality standards
WV	West Virginia
WV DEP	West Virginia Department of Environmental Protection
WWTP	wastewater treatment plant
yr	year
z	depth